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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,761	01/28/2004	Craig E. Hampel	RBUS 1309-1	3627
38342 7590 11/15/2007 RAMBUS, INC. c/o HAYNES BEFFEL & WOLFELD LLP P.O. BOX 366 HALF MOON, CA 94019			EXAMINER WANG, TED M	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 11/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,761

Applicant(s)

HAMPEL ET AL.

Examiner

Ted M. Wang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-9, 12-18 and 21-25 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remark, filed 9/21/2007, with respect to Claims 10 and 11 have been fully considered and are persuasive. The rejection of Claims 10 and 11 under 35 USC 112 second paragraph has been withdrawn.
2. Applicant's arguments, filed on 9/21/2007, with respect to claims 1, 2, 10, 11, 19 and 20, have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitations.

Independent Claims 1 and 19

- (1) *Applicants' argument* – "Applicants have amended claims 1, 2, 19 and 20 to require that the parameter being calibrated is a timing parameter. Lee describes calibrating only voltage levels, and therefore does not anticipate the claims as amended." as recited in page 9 of Remark.

Examiner's response –

In response to applicant's argument as recited in the above paragraph Examiner respectfully disagree. Col. 5, line 59 – col. 6 line 4, of Lee's reference specifically teaches that the periodic calibration sequence operation is used to compensate for drift caused by changes in voltage and temperature. The calibration operation is controlled by a sequence of commands and includes a compare phase to determine whether the calibration value is to be incremented or decremented

and an update **phase** in which the **calibration value** is incremented or decremented according to the determination of the compared **phase**. The calibration value is updated based on the comparison result of phase. It is clear that the timing parameter is the **phase** that drifted due to changes in voltage and temperature.

For a periodic sinusoids, a change in phase is the same as a shift in time, such as a time-delay. I.e. the phase is considered as a time parameter. The explanation is shown below:

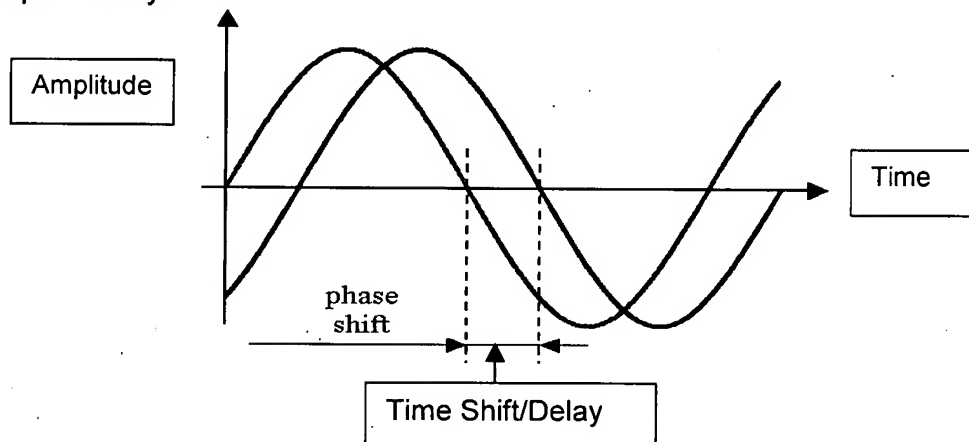
If $x(t) = A \sin(2\pi ft + \theta)$, where A is the amplitude, f is the frequency, $T=1/f$ is the period, t is the elapse time, and θ is the phase of the signal $x(t)$.

θ is sometimes referred to as a phase-shift, because it represents a "shift" from zero phase. But a change in θ is also referred to as a phase-shift.

If $x(t)$ is delayed (time-shifted) by of its cycle; it becomes:

$$\begin{aligned} x(t-T/4) &= A \sin(2\pi f(t-T/4) + \theta) = A \sin(2\pi ft - 2\pi(1/T)T/4 + \theta) \\ &= A \sin(2\pi ft - \pi/2 + \theta) \end{aligned}$$

It concludes that if the time is shifted (drifted) by $T/4$, the phase is shifted by $-\pi/2$ correspondently.



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Again, It is clear that the parameter being calibrated is a timing parameter and the timing parameter is the phase that drifted due to changes in voltage and temperature as disclosed by Lee et al.

- (2) *Applicants' argument* – “As noted above, Lee was owned by the same assignee as that if the present application at the time of the present invention, and is therefore not available as prior art under 35 U.S.C. § 103.” as recited in page 10 of Remark.

Examiner's response – The applied reference, Lee et al. (US 7,119,549) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131. Refer to MPEP 706.02(b)[R-5] Overcoming a 35 USC 102 Rejection Based on a Printed Publication or patent.

Thus, for the explanation addressed in the above paragraph, the rejection under 35 U.S.C. 102(e) with Lee's reference is adequate.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4: Claims 1, 2, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 7,119,549).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

- With regard claim 1, Lee et al. discloses a method for calibrating a bidirectional communication channel, including a first component having a transmitter (Fig.3 elements 201 and 203₁-203_M), a second component having a receiver (Fig.3 elements 201 and 203₁-203_M), and a communication link coupling the first and second components (Fig.3 elements 202₁-202_N), the communication channel

having a parameter with an operation value determined by calibration (Fig.3 element 212); comprising:

establishing an operation value for a parameter of the communication channel (column 1 lines 30-43 and column 5 line 59 – column 6 line 4); and

executing a drift calibration sequence, from time to time, to determine a drift value for the parameter of the communication channel (column 12 lines 60-66), wherein drift calibration sequence comprises an algorithm different than used to establish the operation value (column 5 line 59 – column 6 line 4, initial calibration sequence, and column 12 line 42 – column 13 line 5, drift calibration sequence); and

updating the operation value in response to the drift value (column 13 lines 5-13). Where Examiner considers the timing parameter as phase. The explanation has been addressed in the above paragraph (Examiner response).

- With regard claim 2, Lee further discloses wherein said establishing includes executing a first calibration sequence to set the operation value of the parameter of the communication channel, and wherein the drift calibration sequence utilizes less resources of the communication channel than the first calibration sequence (column 3 lines 20-44, especially lines 34-44).
- With regard claim 19, which is an apparatus claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

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- With regard claim 20, which is an apparatus claim related to claim 2, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

5. Claims 3-18 and 21-25 are allowed.
6. Claims 10 and 11 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is an examiner's statement of reasons for allowance.

- The prior art fails to teach an apparatus of Claims 3, 12 and 21 that specifically comprises the following:

-- The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 7,119,549, US 7,196,979, and US 7,119,549. The improvement comprises:

With regard claims 3 and 21, "wherein the first calibration sequence includes exchanging first calibration patterns between the first component and the second component, and the drift calibration sequence includes exchanging second calibration patterns between the first component and the second component, wherein the second calibration patterns are shorter than the first calibration patterns." as recited in combination with other limitation as claimed in claims 3 and 21, respectively, and

With regard claim 12, "the first calibration sequence also including iteratively adjusting a value of a second edge parameter, transmitting a long calibration pattern using the transmitter on the first component, receiving the long calibration pattern using the receiver on the second component, and analyzing the received long calibration pattern to determine a value for the second edge parameter;" as recited in combination with other limitation as claimed in claim 12.

Conclusion

8. Reference(s) US 7,072,355 and US 7,196,979 are cited because they are put pertinent to the periodic calibration in a system. However, none of references teach detailed connection as recited in claim.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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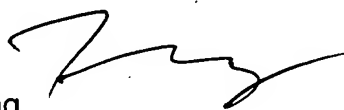
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053.

The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang



Ted M Wang
Examiner
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